

Remarks/Arguments

Claims 1-64 are pending in the present application.

Claims 1-30 are rejected.

Claims 1, 10, 14, 22, and 30 are amended herein.

Claims 31-64 are new.

1. Rejections under 35 USC § 103(a)

In the Office action, claims 1, 14, and 22 were rejected under 35 USC § 103(a) as allegedly being unpatentable over United States patent 6,355,198 to Kim et al. [hereinafter Kim] and United States patent application publication 2003/0062334 to Lee et al. [hereinafter Lee].

a. *Claim 1*

Claim 1, as amended, defines a method of patterning a substrate with a template having a mold, the method including, *inter alia*, positioning conformable material between the substrate and the mold; filling a volume defined between the mold and the substrate with the conformable material through capillary action between the conformable material and one of the mold and the substrate; and applying a pulling force on at least one of the substrate and the mold to compensate for tensile forces, associated with the capillary action, upon the mold.

Applicants advocate this method in order to control a thickness of the conformable material between the substrate and the mold. See ¶ [0027]. Specifically, the invention of claim 1 involves compensating for tensile forces upon the mold by applying a pulling force on one of the substrate or the mold. As a result, control of the thickness of the conformable material may be facilitated, as desired. See ¶ [0028].

i. Kim et al. (U.S. Patent 6,355,198)

Kim is completely silent with respect to applying a pulling force on one of the substrate and the mold to compensate for tensile forces, with the tensile forces being associated with capillary action between a conformable material and one of the mold and the substrate. Rather, Kim is directed towards employing an article having a plurality of indentations that upon contact with a surface of a substrate, form a plurality of channels. See column 10, lines 37-61. A fluid is then introduced into the plurality of channels, forming a non-contiguous layer of the fluid. See column 10, lines 66-67 and Figure 1. The non-contiguous layer of fluid is then made self-supporting, defining a structural article. See column 11, lines 16-37 and Figure 1. Kim has no mention of applying a pulling force to one of the substrate or the mold (referred to as the article in Kim), much less applying the pulling force to compensate for tensile forces upon the mold (referred to as the article in Kim). As a result, Kim does not recognize the problem the Applicants address of controlling a thickness of the contiguous layer of the conformable material by compensating for tensile forces subjected upon the mold.

ii. Lee et al. (U.S. Patent application publication 2003/0062334)

Lee is completely silent with respect to applying a pulling force on one of the substrate and the mold to compensate for tensile forces, with the tensile forces being associated with capillary action between a conformable material and one of the mold and the substrate. Rather, Lee is directed towards bringing a mold into contact with a polymer material positioned on a substrate. See ¶ [0025]. The polymer material is then permeated into an empty space (the recess) of the mold, defining a non-contiguous layer of the polymer material. See ¶ [0026] and Figure 1E. The mold is then removed from contact with the substrate such that the non-contiguous layer defines a micropattern on the substrate. See ¶ [0034] and Figure 1F. Lee has no mention of applying a pulling force to one of the substrate or the mold, much less applying the pulling force to compensate for tensile forces upon the mold. As a result, Lee does not recognize the problem the Applicants

address of controlling a thickness of the contiguous layer of the conformable material by compensating for tensile forces subjected upon the mold.

Based upon the foregoing, Applicants respectfully contend that a *prima facie* case of obviousness is not present with respect to claim 1, as amended.

b. *Claim 14*

In addition to the arguments set forth above with respect to claim 1, as amended, claim 14, as amended, defines a method of patterning a substrate with a template having a mold, the method including, *inter alia*, positioning conformable material between the substrate and the mold; establishing a distance between the mold and the substrate to facilitate filling a volume, defined between the mold and the substrate, with the conformable material through capillary action between the conformable material and one of the mold and the substrate to form a contiguous layer of the conformable material having first and second sub-portions, the first sub-portions having a first thickness and the second sub-portions having a second thickness differing from the first thickness, with the first and second thicknesses being greater than zero; and applying a pulling force on one of the substrate and the mold to compensate for tensile forces, associated with the capillary action, upon the mold.

i. Kim et al. (U.S. Patent 6,355,198)

Furthermore, Kim teaches away from Applicants' claimed invention by teaching forming a non-contiguous layer of the fluid. See column 10, lines 66-67 and Figure 1. More specifically, Kim teaches contacting a surface of a substrate with a contact surface of a forming article (i.e. the mold) to seal a portion of the surface of the substrate, thus forming channels defined by indentations of the forming article and the surface of the substrate. See column 10, lines 54-61. As a result, Kim forms a non-contiguous layer of the fluid. See Figure 1.

ii. Lee et al. (U.S. Patent application publication 2003/0062234)

Furthermore, Lee teaches away from Applicants' claimed invention by teaching forming a non-contiguous layer of the fluid. See ¶ [0026] and Figure 1E. More specifically, Lee teaches contacting a surface of the substrate with the mold such that the polymer material is permeated in to the empty space (the recess) of the mold. See ¶ [0026]. Furthermore, the empty space of the mold formed between the mold and the surface of the substrate needs to be large enough to accommodate all of the polymer material. See ¶ [0026]. As a result, Lee forms a non-contiguous layer of the fluid. See Figure 1F.

Based upon the foregoing, Applicants respectfully contend that a *prima facie* case of obviousness is not present with respect to claim 14, as amended.

c. *Claim 22*

Applicants respectfully contend that the arguments set forth above with respect to claims 1 and 14, as amended, applies with equal weight here and that claim 22, as amended, defines an invention suitable for patent protection.

2. New Claims 36, 50, and 52

Applicants submit new claims 36, 50, and 52 to secure an appropriate scope of the invention. To that end, Applicants request examination and allowance of claims 36, 50, and 52.

3. The Non-obviousness of the Dependent Claims

Considering that the dependent claims include all of the features of the independent claims from which they depend, these claims are patentable to the extent that the independent claims are patentable. Therefore, Applicants respectfully contend that the dependent claims define a method suitable for patent protection.

Applicants respectfully request examination in view of the remarks. A notice of allowance is earnestly solicited.

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